

REALISTIC®

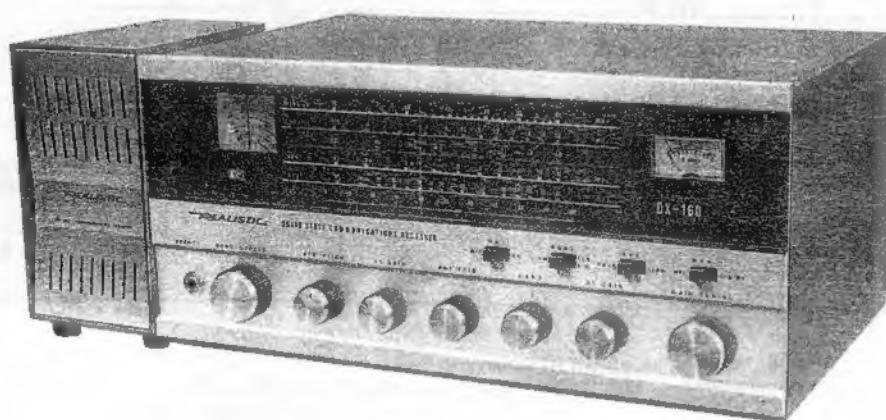
Service Manual

SECOND EDITION

DX-160

SOLID STATE FIVE BAND COMMUNICATIONS RECEIVER

Catalog Number: 20-152



This service manual is relevant to products manufactured after APR 20, 1975
(After serial number 418411 for U.S.A., 417544 Canada, 429012 for
Australia, Belgium and U.K.)

CUSTOM MANUFACTURED FOR RADIO SHACK  A TANDY CORPORATION COMPANY

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SPECIFICATIONS

| Description | Condition | Nominal Spec. | Limit Spec. |
|--|--|---|---|
| Frequency coverage | Band A Band B Band C Band D Band E | 145 — 405 kHz 520 — 1610 kHz 1.47 — 4.55 MHz 4.3 — 13.2 MHz 12.7 — 30.2 MHz | 150 — 400 kHz 535 — 1605 kHz 1.5 — 4.5 MHz 4.5 — 13 MHz 13 — 30 MHz |
| Sensitivity (S+N)/N = 10 dB Output = 50 mW (Thru I.E.C. Dummy ANT.) | 250 kHz 1 MHz 2.5 MHz 7 MHz 21 MHz | 50 μ V 100 μ V 3 μ V 4 μ V 4 μ V | 200 μ V 300 μ V 10 μ V 10 μ V 10 μ V |
| Selectivity | —6 dB —40 dB | 4 kHz 18 kHz | 4.5 kHz 20 kHz |
| Image ratio (Thru I.E.C. Dummy ANT.) | 250 kHz 1 MHz 2.5 MHz 7 MHz 21 MHz | 48 dB 65 dB 45 dB 35 dB 15 dB | 40 dB 50 dB 40 dB 30 dB 10 dB |
| Signal-to-Noise ratio | 1 mV at 7 MHz AM SSB | 50 dB 40 dB | 40 dB 30 dB |
| Intermediate frequency | | 455 kHz | 455 \pm 2 kHz |
| B.F.O. pitch | | \pm 2.5 kHz | \pm 2 kHz |
| AVC action | 50 μ V to 20 mV at 7 MHz | \pm 6 dB | \pm 10 dB |
| Audio frequency response | AM: 300 Hz to 3 kHz SSB: 300 Hz to 3 kHz | —6 dB —6 dB | +3, —10 dB +3, —10 dB |
| Audio output power | Less than 10% T.H.D. | 700 mW | 500 mW |
| Hum and noise | AF Gain Minimum AM SSB | — 4.5 mV 6 mV | 10 mV 10 mV |
| Power drain | 1. Idling AC 120V, 60 Hz DC 12V 2. Full power AC 120V, 60 Hz DC 12V | 3 W 30 mA 6 W 180 mA | 4 W 60 mA 10 W 300 mA |
| Dial calibration accuracy | Main Tuning Bandspread | \pm 1 % \pm 0.1 % | \pm 3 % \pm 0.5 % |
| Oscillator drop-out | AC DC | 80 V 7 V | 100 V 9 V |

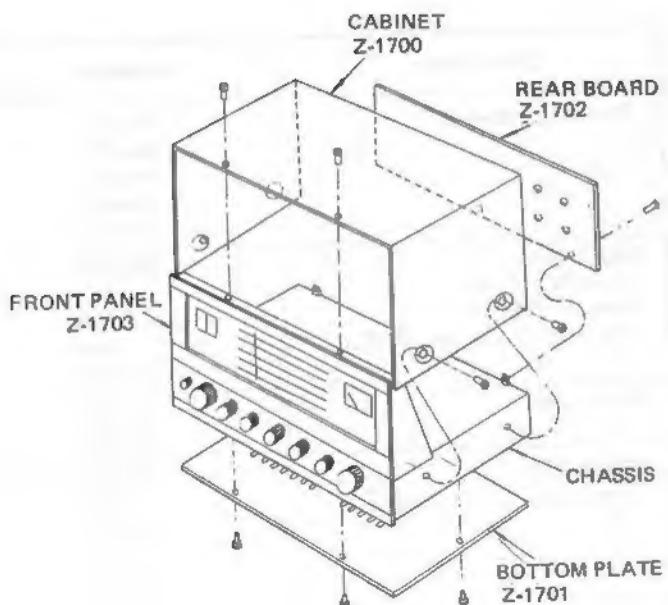
Semiconductors : 1 IC, 5 FET's, 7 transistors and 15 diodes
 Reception : AM, CW and Single Side Band (USB/LSB)
 Power source : 120 Volt AC 60 Hz or
 12 Volt DC negative ground only.
 Antenna : Low impedance
 Phone jack matching impedance : More than 8 ohm
 Operating temperature : 0°C to 40°C
 Dimensions : 6-9/16"(H) x 14-1/5"(W) x 8-7/8"(D)
 Weight : 16 lbs.

NOTE: Nominal Specs represent the design specs; all units should be able to approximate these — some will exceed and some may drop slightly below these specs. Limit Specs represent the absolute worst condition which still might be considered acceptable; in no case should a unit perform to less than within any Limit Spec.

DISASSEMBLY

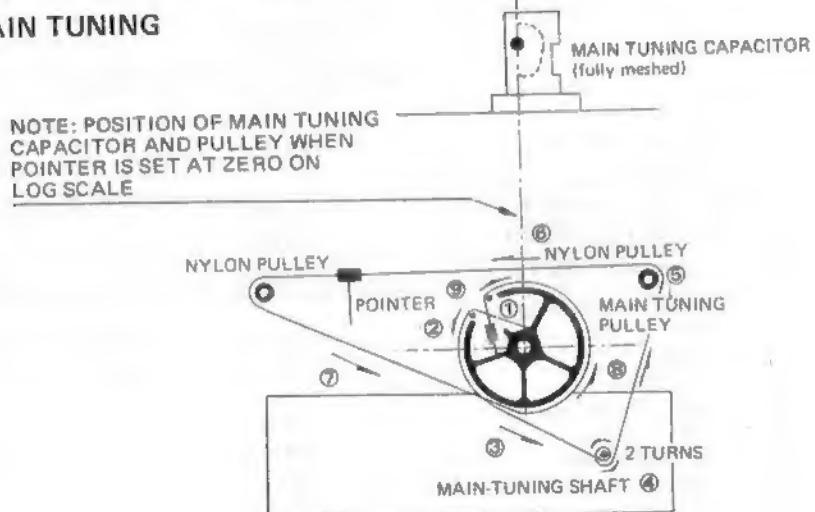
DISASSEMBLY INSTRUCTIONS

1. Remove 6 screws from bottom plate.
2. Remove 6 screws from rear board.
3. Remove 4 screws holding cabinet.

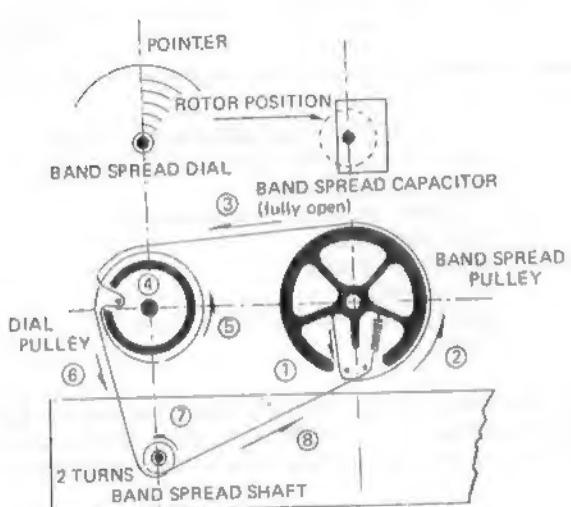


DIAL STRING ASSEMBLY

MAIN TUNING



BAND SPREAD



NOTE: THE POSITION OF BAND SPREAD DIAL, BOTH PULLEYS AND BAND SPREAD CAPACITOR PLATES.

GENERAL ALIGNMENT INSTRUCTIONS

Test instrument required:

1. Signal Generator (150 kHz – 30 MHz)
2. I.E.C. Dummy antenna
3. AC VTVM
4. Oscilloscope

PREPARATION FOR DIAL TRACKING ALIGNMENT

Note 1: Before attempting alignment, warm up the test instrument and the receiver for a minimum of 15 minutes to allow the components to stabilize.

Note 2: During alignment, reduce the signal generator output as the VTVM readings become higher. Always use the lowest signal generator output.

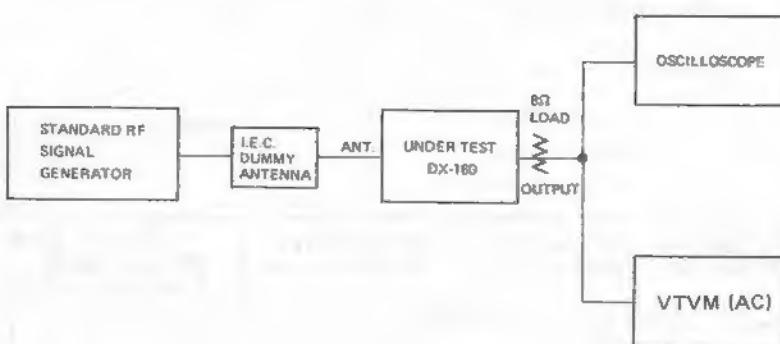
Note 3: A non metallic alignment tool is required for complete alignment.

Note 4: Before alignment confirm that, when the MAIN TUNING knob is rotated fully counterclockwise (main tuning capacitor fully meshed) the dial pointer rests exactly on the 0 mark on the LOG scale.

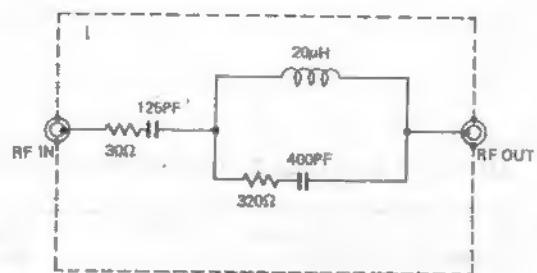
Step 1: Set the front panel controls as follows:

| | |
|-------------|--|
| BAND SPREAD | — Fully clockwise (fully open). |
| AF GAIN | — Adjust as necessary during alignment |
| RF GAIN | — Fully clockwise |
| MODE SW | — AM position |
| OPR SW | — REC position |

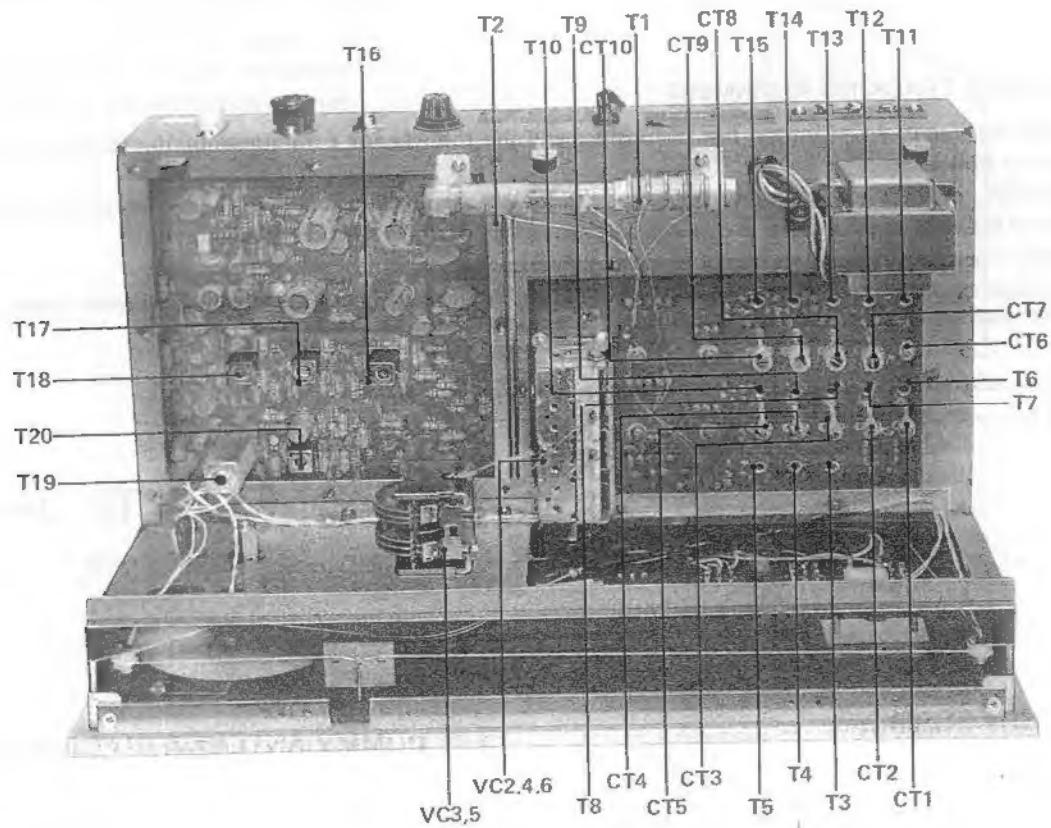
ALIGNMENT SET-UP DIAGRAM



I.E.C. DUMMY ANTENNA DIAGRAM



ALIGNMENT POSITIONS



DIAL TRACKING ALIGNMENT CHART

| STEP | TUNE SIGNAL GENERATOR FREQUENCY TO: (MODULATION 1 kHz 30%) | CONNECT SIGNAL GENERATOR TO: | SET BAND SELECTOR TO: | SET RECEIVER MAIN DIAL TO: | ADJUST FOR MAXIMUM VTVM OR S METER READING: |
|----------|---|--|-----------------------|----------------------------|---|
| IF STAGE | | | | | |
| 1 | 455 kHz | Across VC3 or VC4 thru a 0.01 μ F capacitor | E | 30 MHz | T16 (RED) |
| 2 | | | | | T17 (WHT) |
| 3 | | | | | T18 (BLK) |
| 4 | Repeat Steps 1 thru 3. | | | | |
| BAND A | | | | | |
| 5 | 170 kHz | ANTENNA terminals thru I.E.C. dummy antenna | A | 170 kHz | T11 (OSC coil) |
| 6 | | | | | T1 (ANT coil) |
| 7 | | | | | T6 (RF coil) |
| 8 | 380 kHz | | | 380 kHz | CT6 (OSC trimmer) |
| 9 | | | | | ANT Trimmer, VC1 |
| 10 | | | | | CT1 (RF trimmer) |
| 11 | Repeat steps 5 thru 10 until no improvement is observed. | | | | |

| BAND B | | | | | |
|--------|---------|---|---|---|-------------------|
| 12 | 600 kHz | ANTENNA terminals thru I.E.C. dummy antenna | B | 600 kHz | T12 (OSC coil) |
| 13 | | | | | T2 (ANT coil) |
| 14 | | | | | T7 (RF coil) |
| 15 | | | | 1400 kHz | CT7 (OSC trimmer) |
| 16 | | | | | ANT Trimmer, VC1 |
| 17 | | | | | CT2 (RF trimmer) |
| 18 | | | | Repeat steps 12 thru 17 until no improvement is observed. | |
| BAND C | | | | | |
| 19 | 1.7 MHz | ANTENNA terminals thru I.E.C. dummy antenna | C | 1.7 MHz | T13 (OSC coil) |
| 20 | | | | | T3 (ANT coil) |
| 21 | | | | | T8 (RF coil) |
| 22 | | | | 4 MHz | CT8 (OSC trimmer) |
| 23 | | | | | ANT Trimmer, VC1 |
| 24 | | | | | CT3 (RF trimmer) |
| 25 | | | | Repeat steps 19 thru 24 until no improvement is observed. | |
| BAND D | | | | | |
| 26 | 5 MHz | ANTENNA terminals thru I.E.C. dummy antenna | D | 5 MHz | T14 (OSC coil) |
| 27 | | | | | T4 (ANT coil) |
| 28 | | | | | T9 (RF coil) |
| 29 | | | | 12 MHz | CT9 (OSC trimmer) |
| 30 | | | | | ANT Trimmer, VC1 |
| 31 | | | | | CT4 (RF trimmer) |
| 32 | | | | Repeat steps 26 thru 31 until no improvement is observed. | |
| BAND E | | | | | |
| 33 | 14 MHz | ANTENNA terminals thru I.E.C. dummy antenna | E | 14 MHz | T15 |
| 34 | | | | | T5 |
| 35 | | | | | T10 |
| 36 | | | | 28 MHz | CT10 |
| 37 | | | | | ANT Trimmer, VC1 |
| 38 | | | | | CT5 |
| 39 | | | | Tune the generator to 27.090MHz and check for the image frequency. If the image frequency does not appear at this point, repeat steps 33 thru 38, being careful to align to the correct frequency. | |

Note: The image frequency is 910 kHz above the signal frequency on Bands A, B, C and D, and 910 kHz below the signal frequency on Band E.

BFO ALIGNMENT

Note: Confirm that the BFO capacitor is fully meshed when the BFO control is at 9 o'clock. If not, reset the knob on the shaft.

Step 1: Set MODE switch to SSB/CW. Set BFO to the one o'clock position.

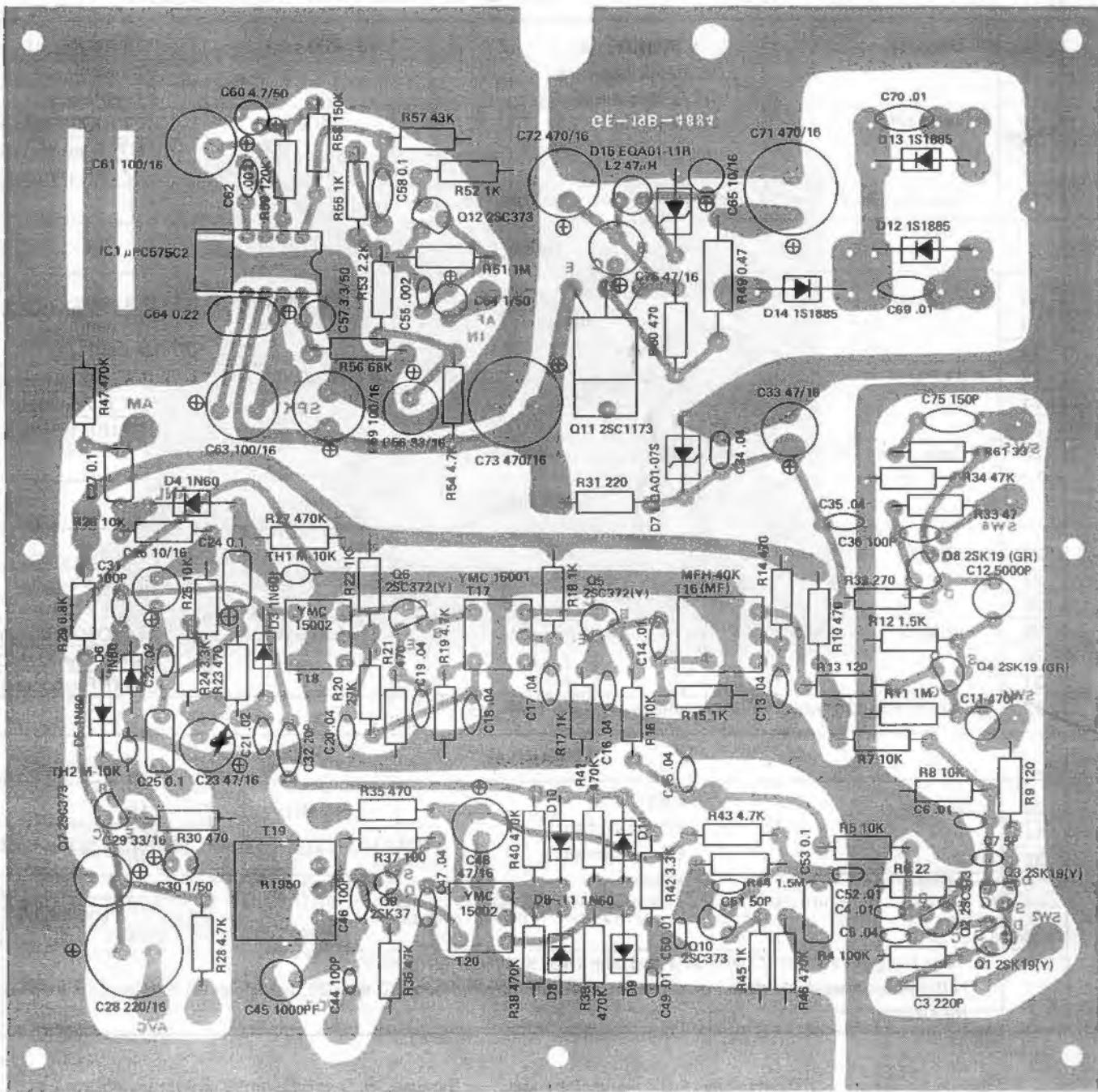
Step 2: Connect an antenna to the antenna terminals, then tune in a station to exactly the maximum reading on the S-meter.

Step 3: Set the AC VTVM to the 1.5 volt range. Connect the VTVM between T20 secondary and chassis ground.

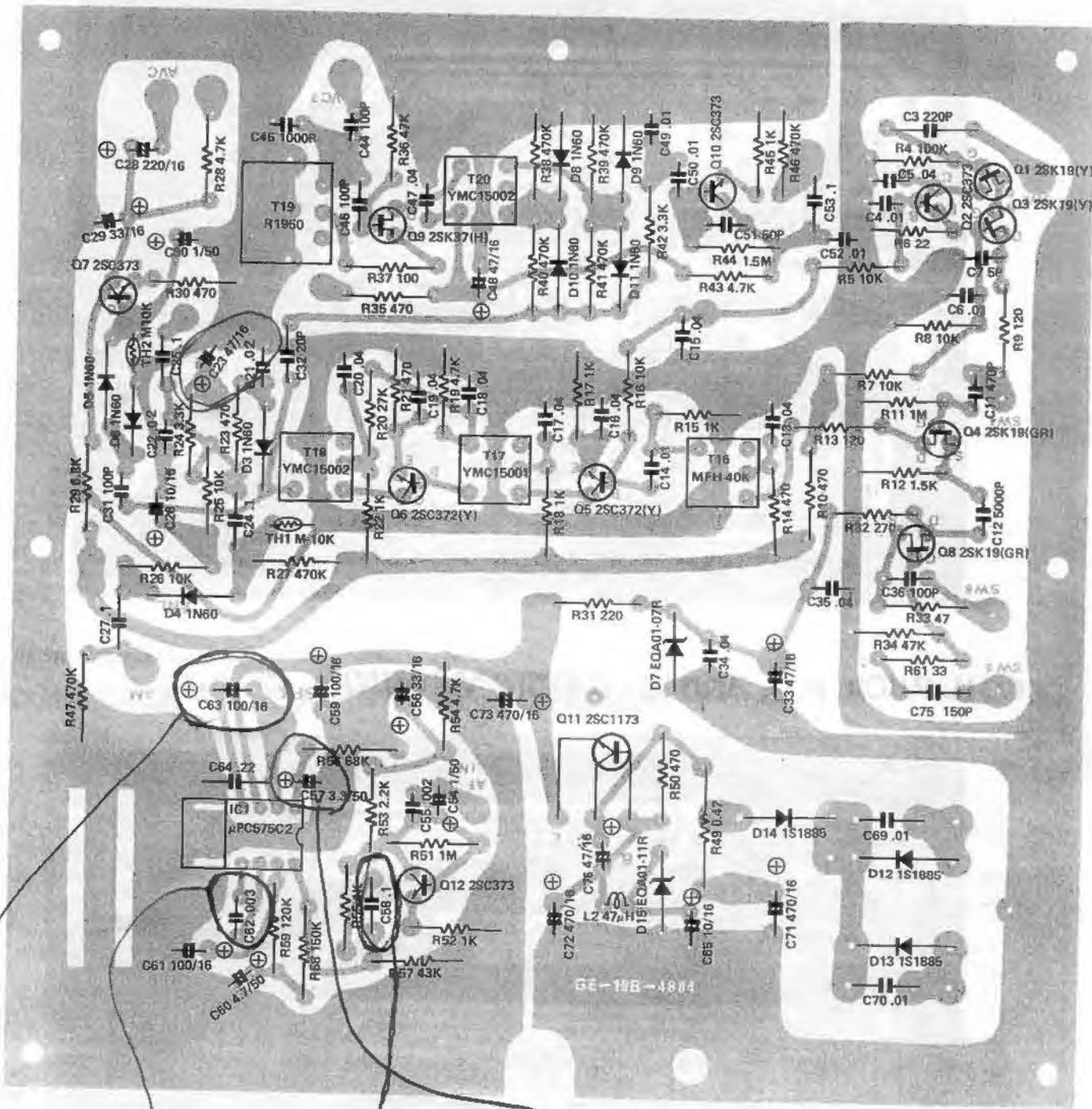
Step 4: Adjust the core of T19 for a zero beat note in the loudspeaker.

Step 5: Adjust the core of T20 for maximum VTVM deflection.

MAIN P.C. BOARD (TOP VIEW)



MAIN P.C. BOARD (BOTTOM VIEW)



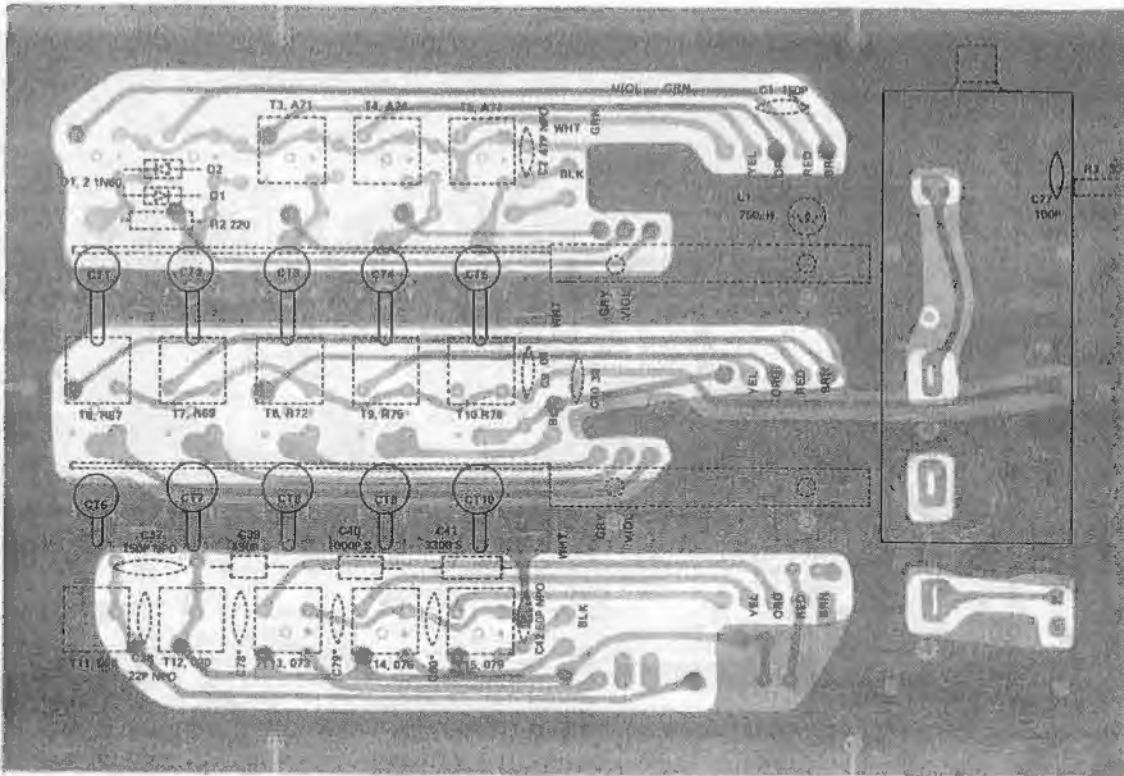
Charge to
47045/162

Close
to 110 p. 25 m
ceramic
cap

charge
TP Sub 16v

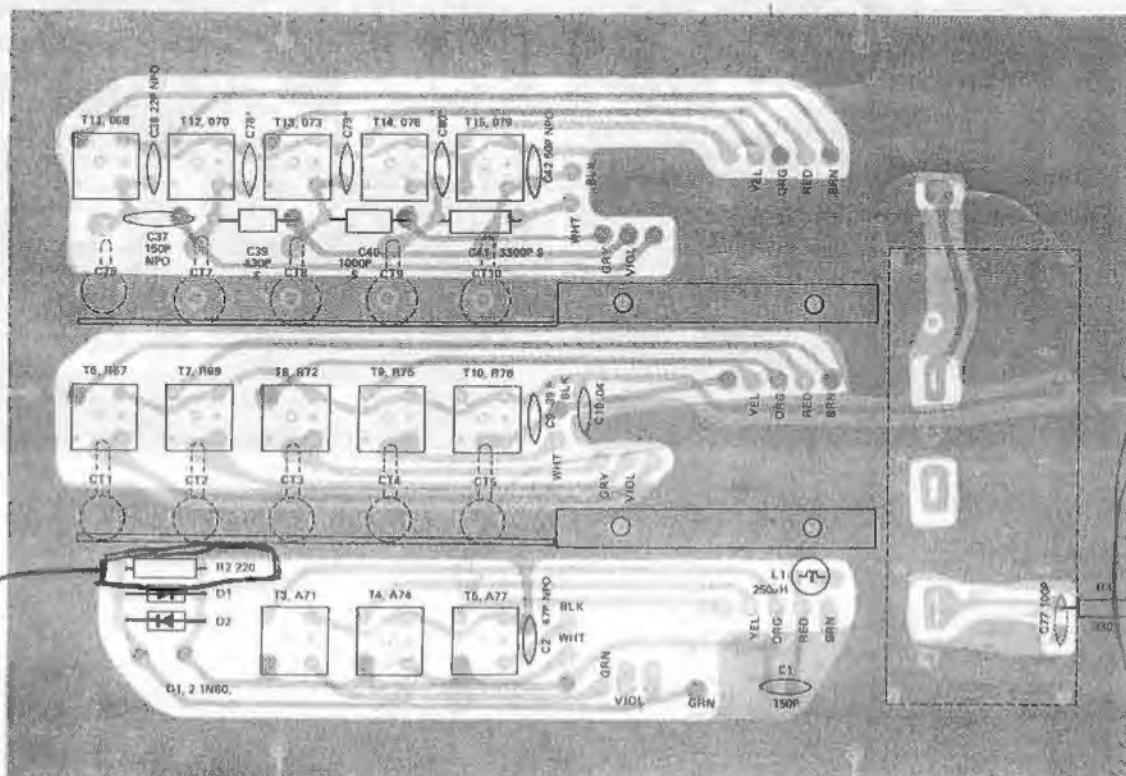
Replace
with 100MHz

COIL PACK P.C. BOARD (TOP VIEW)



COIL PACK P.C. BOARD (BOTTOM VIEW)

*Deletion C78,C79,C80

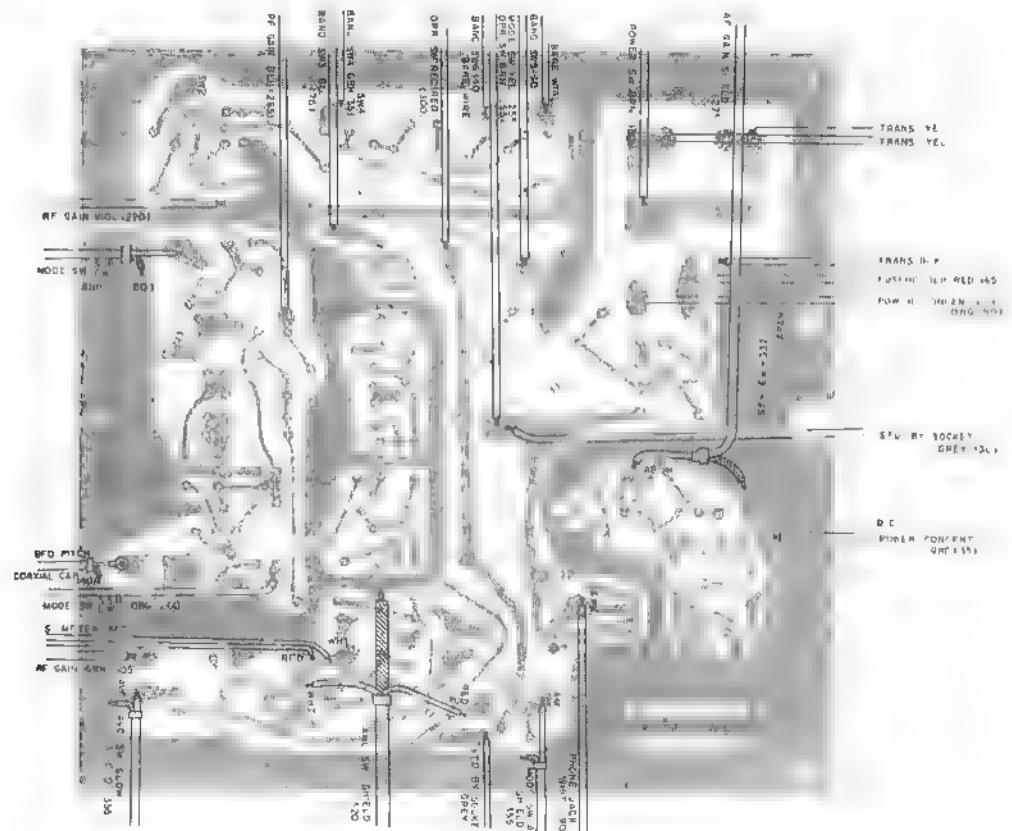


with R_p see
5.10.1
Resistor

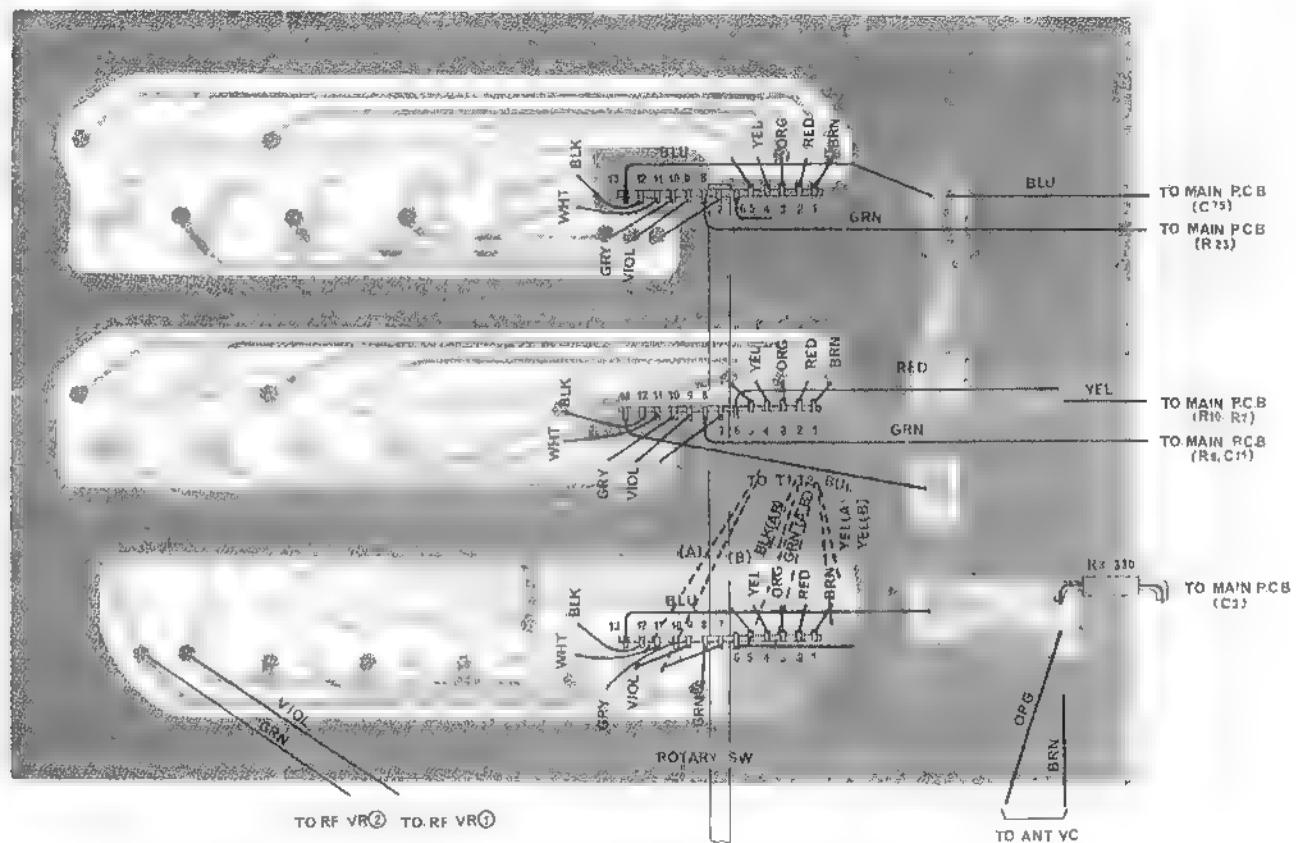
277 Short out
~~this cap!~~

*Deletion C78,C79,C80

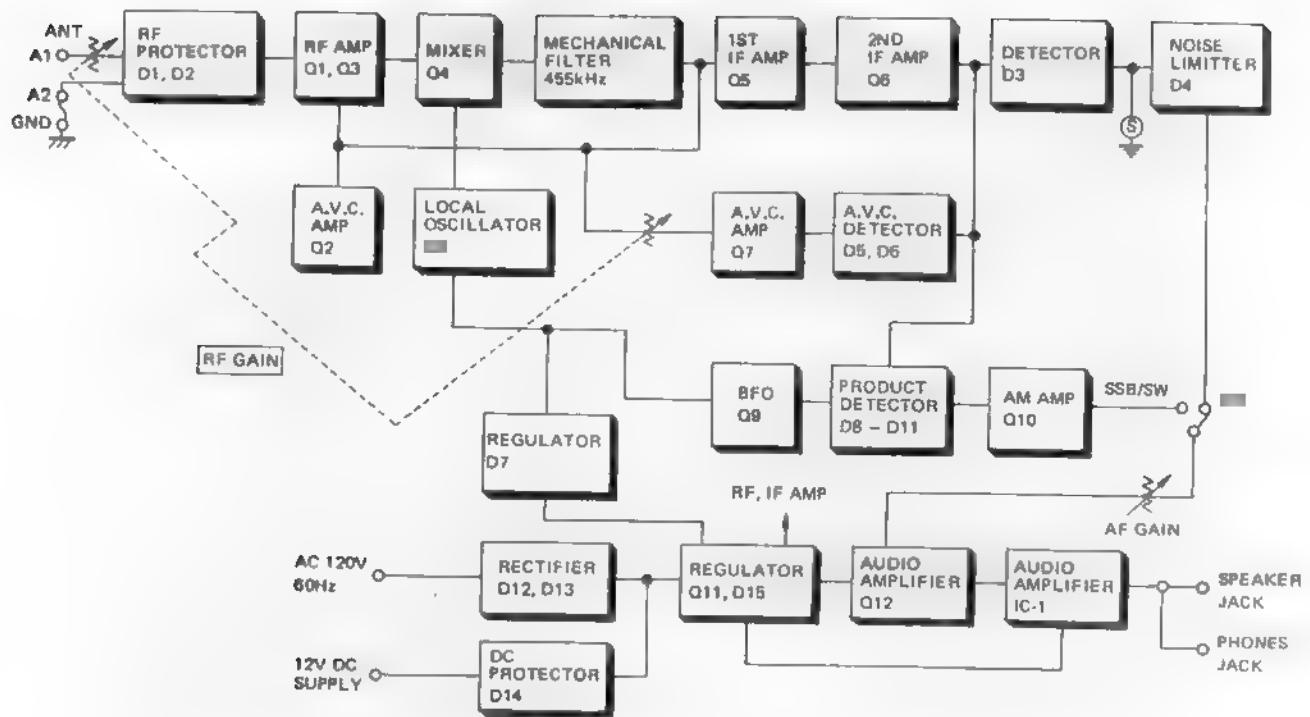
MAIN P.C. BOARD WIRING DIAGRAM



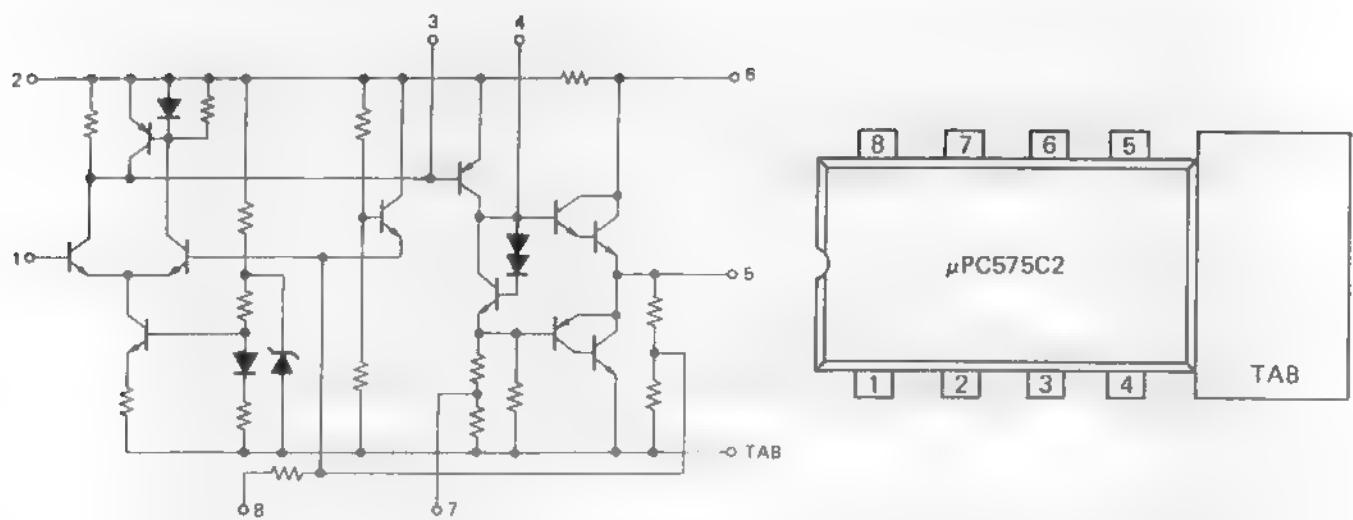
COIL PACK P.C. BOARD WIRING DIAGRAM



BLOCK DIAGRAM



IC SCHEMATIC DIAGRAM



TROUBLESHOOTING

| Symptom | Possible Cause |
|--|---|
| 1) Pilot lamp does not light, nor does the unit function when power is ON. | A) Faulty power cord. B) Defective power switch on AF GAIN VR3. C) Defective power transformer T21. |
| 2) Fuse blows when power is switched on. | A) Defective electrolytic capacitor C71. B) Short-circuit in the DC regulator circuit. C) Short-circuit in the power amplifier circuit. |
| 3) Dial lamp and meter lamp do not light. | A) Defective dial lamp or meter lamp. B) Defective power switch on AF GAIN VR3. |
| 4) Dial lamp glows but no sound is heard on any band. | A) Speaker jack or phone jack defective. B) Blown 0.5A fuse. C) Faulty speaker coupling capacitor C63 D) Power amplifier (IC1) defective. E) Short circuit in the DC regulator circuit. F) Faulty power switch on AF GAIN VR3. G) Faulty STD BY switch. |
| 5) No audio on any band. | A) Defective local oscillator or oscillator circuit component. B) Faulty RF stage amplifier or RF stage amplifier circuit component. |
| 6) BFO Control has no effect. | A) Defective MODE slide switch, SW9. B) Defective capacitor C45. C) Faulty BFO circuit or BFO circuit component. |
| 7) S-meter not operating. | A) Defective S-meter B) Defective capacitor C23. C) Faulty AVC circuit or AVC circuit component. |
| 8) Noisy | A) Defective RF stage amplifier. B) Defective IF stage amplifier. C) Defective AF amplifier IC1. |

PARTS LIST

✓ = means change out to
 Black Gate E Series Cap.
 OR Panasonic Fe
 Caps.

Just
 Electrolytic
 Capacitors!

| Ref. No. | Description | | | | RS Part Number | MFR's Part Number |
|----------|--------------|---------|------------------|------|----------------|-------------------|
| | TYPE | UF | CAPACITORS Volts | | | |
| C1 | Ceramic | 150pF | ±10% | 50WV | | FC-80 |
| C2 | Ceramic | 47pF | ±10% | 50WV | | FCC |
| C3 | Styrol | 220pF | ±5% | 50WV | | S0A1H221J |
| C4 | Ceramic | 0.01μF | +80 -20% | 25WV | | MC-70 |
| C5 | Ceramic | 0.04μF | +80 -20% | 25WV | | MC-100 |
| C6 | Ceramic | 0.01μF | +80 -20% | 25WV | | MC-70 |
| C7 | Ceramic | 5pF | ±0.5pF | 50WV | | FC-50 |
| C8 | Not used | | | | | |
| C9 | Ceramic | 27pF | ±10% | 50WV | | FCC |
| C10 | Ceramic | 0.04μF | +80 -20% | 25WV | | MC-100 |
| C11 | Styrol | 470pF | ±10% | 50WV | | S0C1H471K |
| C12 | Styrol | 5000pF | ±5% | 50WV | | S0A1H502J |
| C13 | Ceramic | 0.04μF | +80 -20% | 25WV | | MC-100 |
| C14 | Ceramic | 0.01μF | +80 -20% | 25WV | | FC-70 |
| C15-20 | Ceramic | 0.04μF | +80 -20% | 25WV | | MC 100 |
| C21, 22 | Ceramic | 0.02μF | +80 -20% | 25WV | | FC-70 |
| C23 | Electrolytic | 47μF | | 16WV | | CE04W1C470 |
| C24, 25 | Mylar | 0.1μF | ±20% | 50WV | | MS1H-104 |
| C26 | Electrolytic | 10μF | | 16WV | | CE04-W1C100 |
| C27 | Mylar | 0.1μF | ±20% | 50WV | | MS1H-104 |
| C28 | Electrolytic | 220μF | | 16WV | | CE04W1C221 |
| C29 | Electrolytic | 33μF | | 16WV | | CE04W1C330 |
| C30 | Electrolytic | 1μF | | 50WV | | CE04W1H010 |
| C31 | Ceramic | 100pF | ±10% | 50WV | | FC-70 |
| C32 | Ceramic | 20pF | ±10% | 50WV | | FC-50 |
| C33 | Electrolytic | 47μF | | 16WV | | CE04W1C470 |
| C34 | Mylar | 0.04μF | ±20% | 50WV | | MS1H-403 |
| C35 | Ceramic | 0.04μF | +80 -20% | 25WV | | MC-100 |
| C36 | Ceramic | 100pF | ±10% | 50WV | | FCC |
| C37 | Ceramic | 150pF | ±10% | 50WV | | FCC |
| C38 | Ceramic | 22pF | ±10% | 50WV | | FCC |
| C39 | Styrol | 430pF | ±5% | 50WV | | S0A1H431J |
| C40 | Styrol | 1000pF | ±5% | 50WV | | S0A1H102J |
| C41 | Styrol | 3300pF | ±5% | 50WV | | S0A1H332J |
| C42 | Ceramic | 50pF | ±10% | 50WV | | FCC |
| C43 | Styrol | 3300pF | ±5% | 50WV | | S0A1H332J |
| C44 | Ceramic | 100pF | ±10% | 50WV | | FC-70 |
| C45 | Styrol | 1000pF | ±10% | 50WV | | S0C1H102K |
| C46 | Ceramic | 100pF | ±10% | 50WV | | FCC |
| C47 | Mylar | 0.04μF | ±20% | 50WV | | MS1H-403 |
| C48 | Electrolytic | 47μF | | 16WV | | CE04W1C470 |
| C49, 50 | Mylar | 0.01μF | ±20% | 50WV | | MS1H-103 |
| C51 | Ceramic | 50pF | ±10% | 50WV | | FC-60 |
| C52 | Mylar | 0.01μF | ±20% | 50WV | | MS1H-103 |
| C53 | Mylar | 0.1μF | ±20% | 50WV | | MS1H-104 |
| C54 | Electrolytic | 1μF | | 50WV | | CE04W1H010 |
| C55 | Ceramic | 0.002μF | +80 -20% | 50WV | | MC-50 |
| C56 | Electrolytic | 33μF | | 16WV | | CE04W1C330 |
| C57 | Electrolytic | 3.3μF | | 50WV | | CE04W1V3R3 |
| C58 | Ceramic | 0.1μF | +80 -20% | 25WV | | MC-135 |

| Ref. No. | Description | | | | RS Part Number | MFR's Part Number |
|-------------|--------------|---------------|-----------|-------|----------------|-------------------|
| C59 | Electrolytic | 100 μ F | | 16WV | | CE04W1C101 |
| C60 | Electrolytic | 4.7 μ F | | 50WV | | CE04W1V4R7 |
| C61 | Electrolytic | 100 μ F | | 16WV | | CE04W1C101 |
| C62 | Ceramic | 0.003 μ F | +80 -20% | 25WV | | MC-50 |
| C63 | Electrolytic | 100 μ F | | 16WV | | CE04W1C101 |
| C64 | Mylar | 0.22 μ F | \pm 20% | 50WV | | MS1H-224 |
| C65 | Electrolytic | 10 μ F | | 16WV | | CE04W1C100 |
| C66, 67 | Not used | | | | | |
| C68 | Ceramic | 0.001 μ F | UL Listed | 150WV | | ECK DDL102ZE |
| C69, 70 | Ceramic | 0.01 μ F | | 500WV | | CK2150 |
| C71, 72, 73 | Electrolytic | 470 μ F | | 16WV | | CE04W1C471 |
| C74 | Not used | | | | | |
| C75 | Ceramic | 150pF | \pm 10% | 50WV | | FCC |
| C76 | Electrolytic | 47 μ F | | 16WV | | CE04W1C470 |
| C77 | Ceramic | 100pF | \pm 10% | 50WV | | FC-70 |

RESISTORS

| | | | | | | |
|---------|-------------|---------------|----------|------|--|--------------|
| R1 | Carbon film | 1.8M Ω | \pm 5% | 1/2W | | ERD-12TJ-185 |
| R2 | Carbon film | 220 Ω | \pm 5% | 1/4W | | ERD-14TJ-221 |
| R3 | Carbon film | 330 Ω | \pm 5% | 1/4W | | ERD-14TJ-331 |
| R4 | Carbon film | 100K Ω | \pm 5% | 1/4W | | ERD-14TJ-104 |
| R5 | Carbon film | 10K Ω | \pm 5% | 1/4W | | ERD-14TJ-103 |
| R6 | Carbon film | 22 Ω | \pm 5% | 1/4W | | ERD-14TJ-220 |
| R7, 8 | Carbon film | 10K Ω | \pm 5% | 1/4W | | ERD-14TJ-103 |
| R9 | Carbon film | 120 Ω | \pm 5% | 1/4W | | ERD-14TJ-121 |
| R10 | Carbon film | 470 Ω | \pm 5% | 1/4W | | ERD-14TJ-471 |
| R11 | Carbon film | 1M Ω | \pm 5% | 1/4W | | ERD-14TJ-105 |
| R12 | Carbon film | 1.5K Ω | \pm 5% | 1/4W | | ERD-14TJ-152 |
| R13 | Carbon film | 120 Ω | \pm 5% | 1/4W | | ERD-14TJ-121 |
| R14 | Carbon film | 470 Ω | \pm 5% | 1/4W | | ERD-14TJ-471 |
| R15 | Carbon film | 1K Ω | \pm 5% | 1/4W | | ERD-14TJ-102 |
| R16 | Carbon film | 10K Ω | \pm 5% | 1/4W | | ERD-14TJ-103 |
| R17, 18 | Carbon film | 1K Ω | \pm 5% | 1/4W | | ERD-14TJ-102 |
| R19 | Carbon film | 4.7K Ω | \pm 5% | 1/4W | | ERD-14TJ-472 |
| R20 | Carbon film | 27K Ω | \pm 5% | 1/4W | | ERD-14TJ-273 |
| R21 | Carbon film | 470 Ω | \pm 5% | 1/4W | | ERD-14TJ-471 |
| R22 | Carbon film | 1K Ω | \pm 5% | 1/4W | | ERD-14TJ-102 |
| R23 | Carbon film | 470 Ω | \pm 5% | 1/4W | | ERD-14TJ-471 |
| R24 | Carbon film | 3.3K Ω | \pm 5% | 1/4W | | ERD-14TJ-332 |
| R25, 26 | Carbon film | 10K Ω | \pm 5% | 1/4W | | ERD-14TJ-103 |
| R27 | Carbon film | 470K Ω | \pm 5% | 1/4W | | ERD-14TJ-474 |
| R28 | Carbon film | 4.7K Ω | \pm 5% | 1/4W | | ERD-14TJ-472 |
| R29 | Carbon film | 6.8K Ω | \pm 5% | 1/4W | | ERD-14TJ-682 |
| R30 | Carbon film | 470 Ω | \pm 5% | 1/4W | | ERD-14TJ-471 |
| R31 | Carbon film | 220 Ω | \pm 5% | 1/4W | | ERD-14TJ-221 |
| R32 | Carbon film | 270 Ω | \pm 5% | 1/4W | | ERD-14TJ-271 |
| R33 | Carbon film | 47 Ω | \pm 5% | 1/4W | | ERD-14TJ-470 |
| R34 | Carbon film | 47K Ω | \pm 5% | 1/4W | | ERD-14TJ-473 |
| R35 | Carbon film | 470 Ω | \pm 5% | 1/4W | | ERD-14TJ-471 |
| R36 | Carbon film | 47K Ω | \pm 5% | 1/4W | | ERD-14TJ-473 |
| R37 | Carbon film | 100 Ω | \pm 5% | 1/4W | | ERD-14TJ-101 |
| R38-41 | Carbon film | 470K Ω | \pm 5% | 1/4W | | ERD-14TJ-474 |

Change
to
5K Ohms

| Ref. No. | Description | | | | RS Part Number | MFR's Part Number |
|----------|-------------|-------|-----|------|----------------|-------------------|
| R42 | Carbon film | 3.3KΩ | ±5% | 1/4W | | ERD-14TJ-332 |
| R43 | Carbon film | 4.7KΩ | ±5% | 1/4W | | ERD-14TJ-472 |
| R44 | Carbon film | 1.5MΩ | ±5% | 1/4W | | ERD-14TJ-155 |
| R45 | Carbon film | 1KΩ | ±5% | 1/4W | | ERD-14TJ-102 |
| R46, 47 | Carbon film | 470KΩ | ±5% | 1/4W | | ERD-14TJ-474 |
| R48 | Carbon film | 1.8MΩ | ±5% | 1/2W | | ERD-12TJ-185 |
| R49 | Carbon film | 0.47Ω | ±5% | 1W | | ERX1ANJ0.47 |
| R50 | Carbon film | 470Ω | ±5% | 1/4W | | ERD-14TJ-471 |
| R51 | Carbon film | 1MΩ | ±5% | 1/4W | | ERD-14TJ-105 |
| R52 | Carbon film | 1KΩ | ±5% | 1/4W | | ERD-14TJ-102 |
| R53 | Carbon film | 2.2KΩ | ±5% | 1/4W | | ERD-14TJ-222 |
| R54 | Carbon film | 4.7KΩ | ±5% | 1/4W | | ERD-14TJ-472 |
| R55 | Carbon film | 1KΩ | ±5% | 1/4W | | ERD-14TJ-102 |
| R56 | Carbon film | 68KΩ | ±5% | 1/4W | | ERD-14TJ-683 |
| R57 | Carbon film | 43KΩ | ±5% | 1/4W | | ERD-14TJ-433 |
| R58 | Carbon film | 150KΩ | ±5% | 1/4W | | ERD-14TJ-154 |
| R59 | Carbon film | 120KΩ | ±5% | 1/4W | | ERD-14TJ-124 |
| R60 | Carbon film | 82Ω | ±5% | 1/4W | | ERD-14TJ-820 |
| R61 | Carbon film | 33Ω | ±5% | 1/4W | | ERD-14TJ-330 |
| R62 | Carbon film | 33KΩ | ±5% | 1/4W | | ERD-14TJ-333 |

COILS/TRANSFORMERS/FILTERS

| | | | | |
|-------|--|------------------|---------|-----------|
| T1, 2 | A, B BAND | BAR Antenna coil | CA-3003 | 12BNA-066 |
| T3 | C BAND | Antenna coil | CA-3004 | 6PNA-071 |
| T4 | D BAND | Antenna coil | CA-3005 | 6PNA-074 |
| T5 | E BAND | Antenna coil | CA-3006 | 6PNA-077 |
| T6 | A BAND | RF coil | CA-4470 | 6PNR067 |
| T7 | B BAND | RF coil | CA-4471 | 6PNR-069 |
| T8 | C BAND | RF coil | CA-4472 | 6PNR-072 |
| T9 | D BAND | RF coil | CA-4473 | 6PNR-075 |
| T10 | E BAND | RF coil | CA-4474 | 6PNR-078 |
| T11 | A BAND | OSC coil | CA-4465 | 6PNO-068 |
| T12 | B BAND | OSC coil | CA-4466 | 6PNO-070 |
| T13 | C BAND | OSC coil | CA-4467 | 6PNO-073 |
| T14 | D BAND | OSC coil | CA-4468 | 6PNO-076 |
| T15 | E BAND | OSC coil | CA-4469 | 6PNO-079 |
| T16 | 455 kHz Mechanical Filter | | CA-3009 | MFH-40K |
| T17 | 455 kHz IFT | | CA-7306 | YMC-15001 |
| T18 | 455 kHz IFT | | CA-3008 | YMC-15002 |
| T19 | BFO coil | | CA-3007 | R1950 |
| T20 | 455 kHz IFT | | CA-3008 | YMC-15002 |
| T21 | Power Trans (U.S.A. model) UL Listed | | TA-0417 | Y-0136 |
| | Power Trans (Canada model) CSA Listed | | | K-2635 |
| | Power Trans (Australia and Europe model) | | | K-3639 |
| L1 | RFC 250μH | | | LF1-251 |
| L2 | RFC 47μH | | | LF1-470 |

| Ref. No. | Description | | | RS Part Number | MFR's Part Number |
|--|---|---|---|--|--|
| POTENTIOMETERS | | | | | |
| VR1, 2 VR3 | RF Gain control AF Gain control | | | P-0725 P-0726 | 2KBX2(GJ10A) 5KA(VJ11ASF21) |
| SEMICONDUCTORS | | | | | |
| D1-6 D7 D8-11 D12-14 D15 IC1 Q1 Q2 Q3 Q4 Q5, 6 Q7 Q8 Q9 Q10 Q11 Q12 Th-1, 2 | Diode Diode Diode Diode Diode IC Transistor Transistor Transistor Transistor Transistor Transistor Transistor Transistor Transistor Transistor Transistor Transistor Transistor Thermistor | Germanium Zener 7V Germanium Silicon Zener 11V NEC Silicon Silicon Silicon Silicon Silicon Silicon Silicon Silicon Silicon Silicon Silicon Silicon | F.E.T. F.E.T. F.E.T. F.E.T. Toshiba Toshiba Toshiba Toshiba Toshiba Toshiba Toshiba Toshiba Toshiba Toshiba Toshiba Toshiba Toshiba | | 1N60 EQA01-07R 1N60 1S1885 EQA01-11R μPC575C2 2SK19(Y) 2SC373 2SK19(Y) 2SK19(GR) 2SC372(Y) 2SC373 2SK19(GR) 2SK37 or 2SK19 2SC373 2SC1173(C) 2SC373 M-10K |
| SWITCHES | | | | | |
| SW1-6 SW7-10 | BAND Selector switch Y-394 ANL/MODE/AVC/OPR | | | \$-1130 S-2202 | GE-18C-4093 6P14L Slide |
| VARIABLE CAPACITORS/TRIMMER CAPACITORS | | | | | |
| VC1 VC2, 4, 6 VC3, 5 VC7 CT1-6 CT7-10 | ANT TRIMMER MAIN Tuning 3gangs BAND SPREAD Tuning 2gangs BFO PITCH RF PC Trimmer OSC PC Trimmer | | | C-4469 C-4467 C-4468 C-4469 CA-4463 CA-4464 | GE-18D-4083 7MD34X24A GE-18D-4082 GE-18D-4083 EVC-12W30P32 AT1-6 |
| MISCELLANEOUS | | | | | |
| | Chassis Front chassis Cabinet Bottom Plate Back Board Front Panel Tuning Dial Plate Band Spread Dial Plate Tuning Dial Shaft Band Spread Dial Shaft | | Z-1700 Z-1701 Z-1702 Z-1703 G-0142 G-0143 D-3115 D-3114 | | GE-19A-4854 GE 19A 4870 GE-15B-2256 GE-11C-535A GE-17C-3387 GE-18C-4068 GE-18C-4069 GE-18D-4070 GE-18D-4072 GE-18D-4071 |

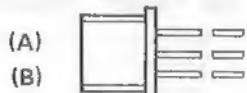
| Ref. No. | Description | RS Part Number | MFR's Part Number |
|----------|------------------------------------|----------------|-------------------|
| | Dial Spread Shaft | D-3116 | GE-12D-728 |
| | Band Spread Sleeve | | 9φ |
| | Pully Stud | HB-0440 | GE-11C-543A |
| | Rotary Switch Bearing | HB-0442 | GE-11C-575(1) |
| | Flywheel | RA-3185 | GE-12D-734 |
| | Pully 40φ | RA-2408 | |
| | Pully 70φ | RA-2409 | |
| | Pully 90φ | RA-2410 | |
| | Dial Back Panel | | GE-19B-4871 |
| | Main Dial Pointer | | GE-19D-4881 |
| | Spread Dial Pointer | | GE-19D-4931 |
| | Shield Bar | HB-0446 | GE-11C-609 |
| | Main P.C. Board UL Type | | GE-19B-4884 |
| | Coil Pack P.C. Board | V-4682 | GE-18D-3966 |
| | S Meter | M-0233 | KL218L59 |
| | Fuse Holder | F-1092 | SN-2055 |
| | 3P Power Connector | J-0567 | No. 1476 |
| | 2P Lug & Socket | J-6236 | No. 3822 |
| | 3P Screws Terminal | KJ-4327 | 3-210 |
| | Phone Jacks | J-0568 | L-J079 |
| | Speaker Jack | J-0569 | SG7615 |
| | Lamp Grommet | HB-0449 | No. 4108 10φ |
| | Lamp Grommet (Band Spread Dial) | | GE-19D-4924 |
| | Bar Antenna Holder | HB-0450 | |
| | Plastic Foot | F-0139 | No. 7003 |
| | Fuse 0.5A Cartridge Type | HF-0079 | |
| | Lead Lamp 7V 50mA | L-0470 | L=90mm |
| | Lead Lamp 7V 50mA | L-0471 | L=440mm |
| | Line Cord (U.S.A. model) UL Listed | W-1670 | BLK 6 Feet |
| | Line Code (Canada model) | | UP329-3 |
| | Line Code (Europe model) | | #1212 |
| | Line Code (Australia model) | | N999 |
| | Line Cord Strain Relief UL Listed | HB-0451 | SR-3P-4 |
| | Dial Spring 9L | RA-5996 | |
| | Dial Spring 5L | RA-5997 | |
| | Nylon Pully | RA-2411 | 7009 |
| | Tuning Knob | K-1497 | GE-18D-4073 |
| | Control Knob | K-1498 | GE-18D-4074 |
| | Terminal Strip 1L1P UL Type | J-4328 | |
| | Terminal Strip 1L1P | J-4329 | |
| | AMP Terminal UL Listed | | #36964 |

SPEAKER BOX

| | | | |
|--|------------------|---------|--|
| | Speaker | S-4478 | |
| | Speaker Box | Z-1704 | |
| | Box Rear Plate | Z-1705 | |
| | Front Panel | Z-1706 | |
| | 1/4" Plug W/Cord | | |
| | Screws 1 Kit | HB-0455 | |

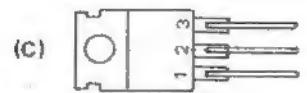
SEMICONDUCTOR LEAD IDENTIFICATION

- (A): 2SC372(Y), 2SC373
- (B): 2SK19(Y), 2SK19(GR)
- (C): 2SC1173(C)
- (D): 2SK37

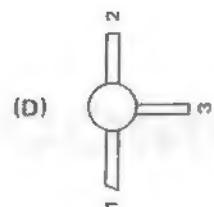


(A)
1. Emitter
2. Collector
3. Base

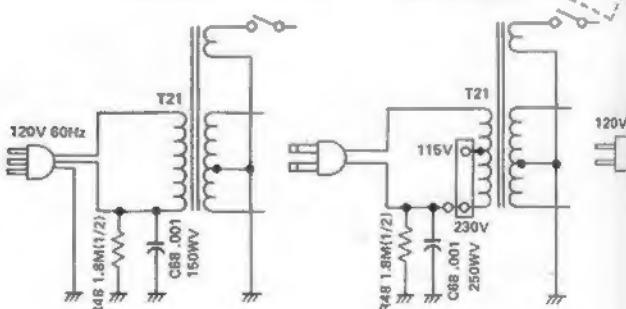
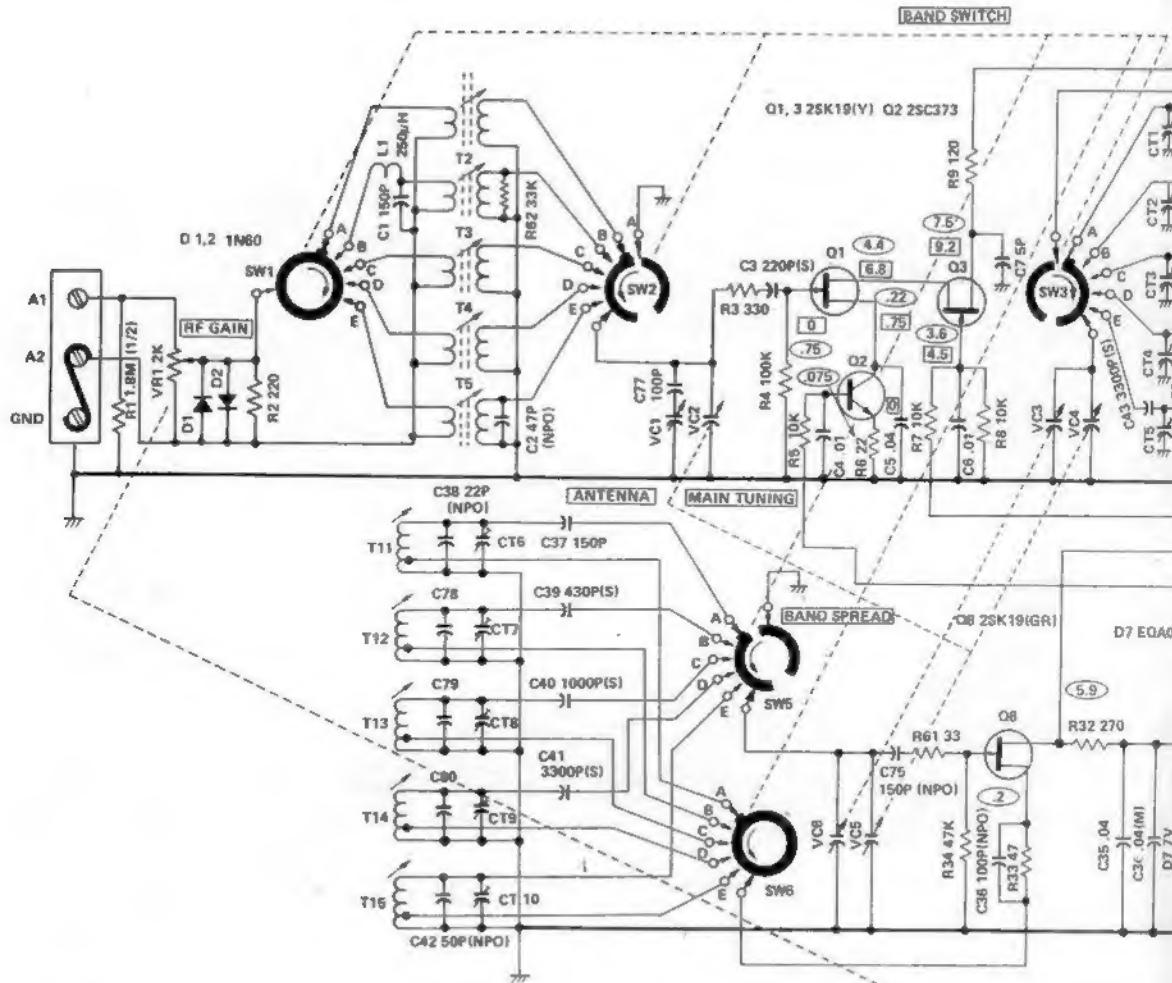
(B)
1. Drain
2. Source
3. Gate



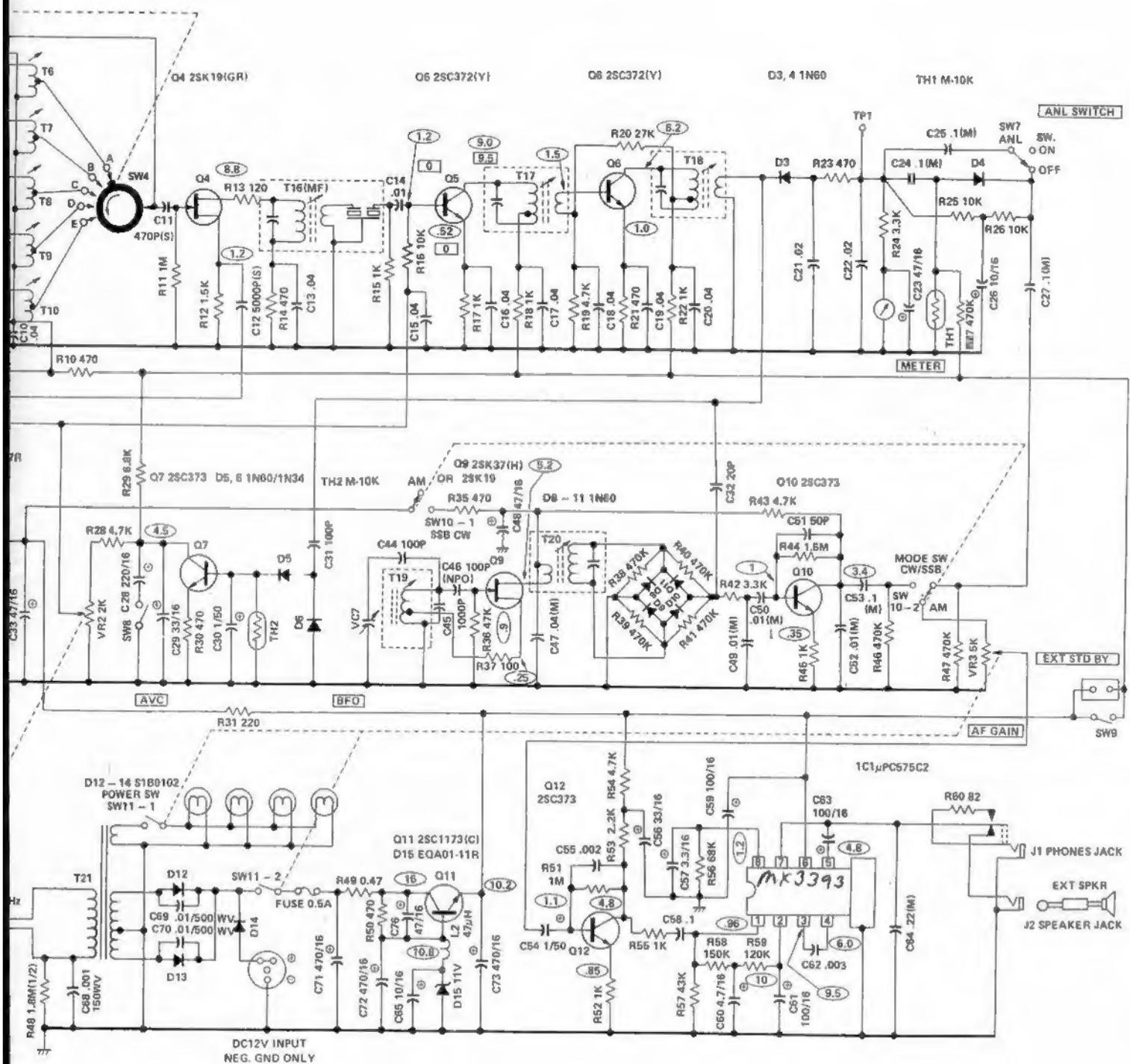
(C)
1. Base
2. Collector (Heat Sink)
3. Emitter



(D)
1. Source
2. Drain
3. Gate



CHEMATIC DIAGRAM



RADIO SHACK  A TANDY CORPORATION COMPANY
U.S.A.: FORT WORTH, TEXAS 76107
CANADA: BARRIE, ONTARIO, CANADA L4M 4W5

TANDY CORPORATION

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280-316 VICTORIA ROAD
RYDALMERE, N.S.W. 2116

BELGIUM

PARC INDUSTRIEL DE NANINNE
5140 NANINNE

U. K.

BILSTON ROAD
WEDNESBURY, STAFFS WF10 7JN